

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2004-131707

(43)Date of publication of application : 30.04.2004

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(51)Int.Cl.

C08F297/04

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(21)Application number : 2003-281564 (71)Applicant : KUMHO PETROCHEMICAL CO LTD

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(30)Priority

Priority number : 2002 200261654 Priority date : 10.10.2002 Priority country : KR

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(54) BLOCK TERPOLYMER AND METHOD FOR PRODUCING THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an aromatic vinyl-butadiene block copolymer having excellent mechanical characteristics, capable of being easily controlled in relative amounts of constituents contained in the block copolymer, and capable of realizing suitable physical characteristics brought about by controlling the constituents.

SOLUTION: This block terpolymer comprises a copolymer with five polymer blocks, has a molecular weight of 50,000-400,000, and is expressed by formula (1): pS-pl-pB-pl-pS (pS is an aromatic vinyl polymer; pB is a butadiene polymer; and pl is an isoprene polymer), wherein the pB has a 1,4-structure in an amount of  $\geq 70\%$ , the pS is contained in an amount of 5-50%, and the pB and the pl are contained in amounts so as to satisfy:  $(pB/pl) \geq 1$ . The copolymer has high tensile strength, because the copolymer has such a structure that the isoprene polymer blocks are inserted between the styrene polymer blocks and the butadiene polymer block. Further, contents of the constituents are controllable, so that the suitable physical characteristics for use of the copolymer is realized.

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LEGAL STATUS

[Date of request for examination]

08.04.2004

[Date of sending the examiner's decision of rejection] 21.04.2005

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection] 2005-13781

[Date of requesting appeal against examiner's decision of rejection] 20.07.2005

[Date of extinction of right]

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